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### Preface



Multiphase flows with phase change can be observed in glacier melts, ocean-atmosphere interaction and the formation of cracking patterns during drought. The second mentioned is crucial from the perspective of climate change. There are many other situations, such as flows in boilers, condensers, distillation columns, and nuclear reactors, fouling in heat exchangers in oil-refineries, spray combustion, coating technology, and food processing, where studying phase change in multiphase flows are important. While multiphase flows have been well studied, those accompanied by phase change have received far less attention.

In the last past few decades, these problems have been modeled extensively using lubrication theory. There are a few other studies that have done some fairly sophisticated modeling and simulation of multiphase flows with boiling for nuclear reactors. Therefore, the main objectives of the IUTAM Symposium on “Multiphase Flows with Phase Change: Challenges and Opportunities” held at Indian Institute of Technology Hyderabad, India during 8th - 11th December 2014 was to assemble world experts in theory, computation and experiment in multiphase flows to define the scope of the work that must be carried out in multiphase flows with phase change. This symposium brought together 150 researchers working on multiphase flows with phase change from 10 different countries. There were 43 oral presentations (appearing in this volume of IUTAM Procedia) and 40 poster presentations.

The Scientific Committee of the symposium includes Prof. Frederic Dias (University College Dublin (IUTAM Representative)), Prof. Andrea Prosperetti (Johns Hopkins University), Prof. Eckart Meiburg (University of California, Santa Barbara), Prof. George Homsy (University of British Columbia, Canada), Prof. Omar K. Matar (Imperial College London, UK), Prof. Stéphane Zaleski (UPMC Sorbonne Universites, France), Prof. Rama Govindarajan, (TIFR Centre for Interdisciplinary Sciences, Hyderabad, India), and Prof. Kirti Chandra Sahu (Indian Institute of Technology, Hyderabad, India).

We heartily thank Prof. Gautam Biswas (Director, IIT Guwahati, India) for being the Guest of Honor for the symposium. The help and support from Prof. Uday B. Desai (Director, IIT Hyderabad, India) are gratefully acknowledged.

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Finally, I dedicate this volume of IUTAM Procedia to “My Gurus” (Teachers, Motivators) Prof. Rama Govindarajan and Prof. Omar K. Matar, who have constantly guided me through out my research carrier.

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